

SUBSTITUTE FORM PTO-1449
(MODIFIED)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
06816/005002SERIAL NO.
~~08/478,801~~INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 CFR 1.98(b))

ATTACH
To #6APPLICANT
SURAMPUDI et al.FILING DATE
~~June 7, 1995~~

6/13/01

GROUP 1795
UnassignedPTO
09/801222
J1040 U.S. PAT. 06/13/01

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | PATENT NUMBER | ISSUE DATE | PATENTEE | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|---------------------|----|---------------|---------------|-----------------|-------|----------|-------------------------------|
| OK | AA | 3 0 1 3 9 0 8 | 12/1961 | Luck et al. | | | |
| OK | AB | 3 1 1 3 0 4 9 | 01/1961 | Worsham | | | |
| OK | AC | 3 3 6 8 9 2 2 | 02/1968 | Salzer | | | |
| OK | AD | 4 2 6 2 0 6 3 | 04/1981 | Kudo et al. | 429 | 41 | |
| OK | AE | 4 3 9 0 6 0 3 | 06/1983 | Kawana et al. | 429 | 30 | |
| OK | AF | 4 4 0 7 9 0 5 | 10/1983 | Takeuchi et al. | 429 | 42 | |
| OK | AG | 4 4 2 0 5 4 4 | 12/1983 | Lawson et al. | 429 | 42 X | |
| OK | AH | 4 4 7 8 9 1 7 | 10/1984 | Fujita et al. | 429 | 33 | |
| OK | AI | 4 5 3 7 8 4 0 | 08/1985 | Tsukui et al. | 429 | 33 | |
| OK | AJ | 4 5 6 2 1 2 3 | 12/1985 | Shimizu et al. | 429 | 27 | |
| OK | AK | 4 6 1 2 2 6 1 | 09/1986 | Tsukui et al. | 429 | 13 | |
| OK | AL | 4 6 2 9 6 6 4 | 12/1986 | Tsukui et al. | 429 | 23 | |
| OK | AM | 4 8 2 8 9 4 1 | 05/1989 | Sterzel | 429 | 33 | |
| OK | AN | 4 8 7 6 1 1 5 | 10/1989 | Raistrick | 427 | 165 | |
| OK | AO | 5 1 8 6 8 7 7 | 02/1993 | Watanabe | 429 | 42 X | |
| OK | AP | 5 3 3 0 8 6 0 | 07/1994 | Grot et al. | 429 | 33 | |

OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

| | | |
|----|----|---|
| OK | AQ | "Studies of the Electro-oxidation of Methanol and Formaldehyde at Carbon-supported Platinum and Platinum Alloy Electrodes" The Electrochemical Society, Inc., R. Knieler, G. Stolp, G.S. Prakashand and G. Olah, October 11 - 16, 1992 |
| OK | AR | "Fuel Cell Update" Popular Science, P.J. Skerrett, June 1993 |
| OK | AS | "Applications of the Gas Diffusion Electrode to a Backward Feed and Exhaust (BFE) Type Methanol Anode" Masahiro Watanabe, Makoto Uchida and Satoshi Motoo, J. Electroanal. Chem., 199 (1986) 311-322 (MAY 1986) |
| OK | AT | "The Use of Thin Films of Sulphonated Fluoro-Polymers for Improvements in the Activity and Durability of Pt Electrocatalysts for Methanol Electrooxidation" Masahiro Watanabe, Takeshi Takahashi and Hideaki Kita J. Electroanal. Chem., 284 (1990) 511-515 (MONTH UNKNOWN) |

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 2 of 5

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|---|---------------|--|---------------------|---|-------|--|-------------------------------|
| SUBSTITUTE FORM PTO-1449 (MODIFIED) | | DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | | ATTY. DOCKET NO. 06816/005002 | | SERIAL NO. 08/478,801 <u>09/881222</u> | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | | | | APPLICANT: Surampudi, et al. | | 11040 U.S. PTO 09/881222 06/13/01 | |
| | | | | FILING DATE 06/07/97 <u>6/13/01</u> | | | |
| (37 CFR 1.98(b)) | | | | | | | |
| U.S. PATENT DOCUMENTS | | | | | | | |
| EXAMINER INITIAL | AA | PATENT NUMBER | ISSUE DATE | PATENTEE | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| OK | | 3 1 4 3 4 4 0 | 08/04/64 | H. HUNGER ET AL. | | | 08/04/60 |
| FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION | | | | | | | |
| | | DOCUMENT NUMBER | PUBLICATION DATE | COUNTRY OR PATENT OFFICE | CLASS | SUBCLASS | TRANSLATION YES NO |
| OK | AL | 59-209277 | 04/04/85 | Japan | | | X |
| OK | AM | 60-165062 | 01/07/86 | Japan | | | X |
| OK | AN | 63-076264 | 08/22/88 | Japan | | | X |
| OK | AO | 02-148657 | 08/24/90 | Japan | | | X |
| OTHER DOCUMENTS (including Author, Title, Date, Place of Publication) | | | | | | | |
| OK | AQ | Narayanan et al. "Implications of Fuel Crossover in Direct Methanol Fuel Cells", Extended Abstracts Fall Meeting October 10-15, vol. 93/2, pps 126/127, New Orleans 1993. | | | | | |
| OK | AR | Kosek et al. "A Direct Methanol Oxidation Fuel Cell", Proceeding of the 28th Intersociety Energy Conversion Engineering Conference, vol. 1, pps 1.1209 - 1.1214, Atlanta 1993. | | | | | |
| OK | AS | Hammet et al. "Electrocatalysis and the Direct Methanol Fuel Cell", Chemistry and Industry, Chemistry and Industry Review, No. 13, pps 480-483, 7/6/92. | | | | | |
| OK | AT | Sawodzinski et al. "Methanol Cross-Over in DMFC's: Development of Strategies for Minimization", Extended Abstracts Spring Meeting 1994 St. Louis, MO., vol. 94/2, pg. 960, 1992 | | | | | |
| EXAMINER | | | | DATE CONSIDERED <u>5/7/03</u> | | | |
| EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | | | |

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| SUBSTITUTE FORM PTO-1449 (MODIFIED) | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO. 06816/005002 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | | SERIAL NO. 08/78,801 09/881222 |
| (37 CFR 1.98(b)) | | APPLICANT: Surampudi et al. |
| FILING DATE June 7, 1995 6/10/01 | | GROUP 1745 |

31040 U.S. PTO
09/881222
06/13/01

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | PATENT NUMBER | ISSUE DATE | PATENTEE | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|------------------|------------------|------------|------------------|-------|----------|----------------------------|
| OK | AA 3 1 4 3 4 4 0 | 08/04/64 | Hunger et al. | | | |
| OK | AB 3 0 1 3 0 9 8 | 12/12/61 | Hunger et al. | | | |
| OK | AC 4 4 9 3 8 7 8 | 01/15/85 | Horiba et al. | | | |
| OK | AD 5 5 9 9 6 3 8 | 02/04/97 | Surampudi et al. | 429 | 33 | |
| | AE | | | | | |

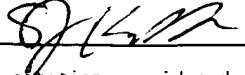
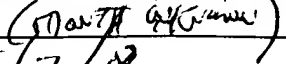
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

| | DOCUMENT NUMBER | PUBLICATION DATE | COUNTRY OR PATENT OFFICE | CLASS | SUBCLASS | TRANSLATION | |
|----|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| | | | | | | YES | NO |
| OK | AF JP 59209277 | 11/27/84 | Japan | | | | |
| OK | AG JP 60165062 | 08/28/85 | Japan | | | | |
| OK | AH JP 63076264 | 04/06/88 | Japan | | | | |
| OK | AI JP 02148657 | 06/07/90 | Japan | | | | |
| OK | AJ JP 06188008 | 07/08/94 | Japan | | | | |
| OK | AK EP 0241432 | 10/14/87 | Europe | | | | |
| OK | AL DE 4243600 | 07/01/93 | Germany | | | | |
| OK | AM JP 6251779 | 09/09/94 | Japan | | | | |
| OK | AN JP 54076443 | 06/09/79 | Japan | | | | |
| OK | AO FR 1436154 | 07/01/66 | France | | | | |

OTHER DOCUMENTS (including Author, Title, Date, Place of Publication)

| | | |
|----|----|---|
| OK | AP | Narayanan et al., Implications of fuel crossover in direct methanol fuel cells, 10/93, Extended Abstracts Fall Meeting, vol. 93/2, pg.126/127 |
| OK | AQ | Kosek et al., A direct methanol oxidation fuel cell, 08/93, Proceedings of the 28th Intersociety Energy Conversion Engineering Conference, vol.1 |
| OK | AR | Hamnett et al., Electrocatalysis and the direct methanol fuel cell, 07/92, Chemistry and Industry Chemistry and Industry Review, no. 13, pg. 480-483 |
| OK | AS | Narayanan et al., Studies on the electro-oxidation of methanol and formaldehyde at carbon-supported platinum and platinum alloy electrodes, 1992, Extended Abstracts Fall Meeting, vol. 92, no.2, pg. 78-79 |
| OK | AT | Zawodzinski et al., Methanol cross-over in DMFC'S: Development of strategies for minimization, 10/92, Extended Abstracts Spring Meeting, vol. 94/2, pg.960 |
| OK | AU | Poltarzewski et al., Nafion distribution in gas diffusion electrodes for solid-polymer -electrolyte-fuel-cell applications, 03/92, Journal of the Electrochemical Society, vol.139, no.9,pg761-765 |
| OK | AV | Surampudi et al., Advances in direct oxidation methanol fuel cells, 01/94, Journal of Power Sources, vol.47, no.3,pg.377-385 |

8/7/03

| | | |
|---|---|---|
| SK | AX | Watanabe, Improvement of performance and durability of anode for direct methanol fuel cells, 1992, Proceedings of the Workshop on Direct Methanol-Air Fuel Cells, vol.92-14 |
| EXAMINER |  | DATE CONSIDERED  5/7/93 |
| EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | |

Substitute Disclosure Form (PTO-1449)

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09/881222